

CLAIMS

1. Device for cleaning rolls in printing machines, specially machines for executing prints on web-shaped paper-like material destined to the production of tissue paper, napkins, toilet paper and the like, characterized by the fact that it comprises:

- a nozzle (1) apt to direct a steam jet toward the surface of a roll (2, 3) to be cleaned: said nozzle (1) being connected to steam feeding means;

- a suction chamber (5) within which is disposed said nozzle (1) and apt to execute an aspiration in correspondence of the surface of the roll (2, 3) interested by the steam jet supplied by the nozzle (1): said chamber (5) being connected to relevant suction means;

- a plurality of holes (7, 8) oriented toward the surface of the roll (2, 3) to be cleaned, and connected to air compressed feeding means.

2. Device according to claim 1, characterized by the fact that said plurality of holes (7, 8) is disposed along two rows, with the holes of each row aligned according a corresponding plane, forming, in such way, two supplying fronts for the compressed air which are on the same side in respect to the nozzle (1).

3. Device according to claim 1, characterized by the fact that it comprises a main body (59) provided with fast coupling means for fixing, one at a time, different cleaning heads (51; 510) destined to a corresponding roll to be cleaned.

4. Device according to claim 1, characterized by the fact that said suction chamber (5) is delimited by the lateral inner walls (50) of a first box-shaped body (51; 510) and by the lateral outer walls (53) of a second body (52) which is internal to the first body (51; 510) and which acts as a support for the said nozzle (1) and by the fact that a base

(55) of said chamber (5) is delimited by a surface provided with two apertures (56) for connecting it to relevant aspiration ducts (6) and with an aperture (54) for connecting it to a steam suction duct (4).

5 5. Device according to claim 3, characterized by the fact that said main body (59) is supported by a carriage (89) bi-directionally movable along a guide (93) parallel to the roll (2, 3) to be cleaned.

10 6. Method for cleaning rolls in printing machines, especially machines for executing prints on web-shaped paper-like material destined to the production of tissue paper, napkins, toilet paper and the like, comprising at least one roll (2, 3) on which the printing ink is deposited, method characterized by executing the cleaning
15 of said at least one roll (2, 3) by supplying a steam jet directed toward the surface of the same roll, supplying compressed air directed toward said surface and suctioning from said surface the substances removed by the action of the steam and the compressed air.

20 7. Method according to claim 6, characterized by that the steam jet is continuous.

8. Method according to claim 6, characterized by that the steam jet is discontinuous.

25 9. Method according to claim 6, characterized by that a detergent is added to the liquid for producing the steam.

10. Method according to one or more of the preceding claims from 6 to 9, characterized by a cleaning direction of the rolls (2, 3) parallel to the longitudinal axis of said rolls (2, 3).

30 11. Method according to claim 10, characterized by the fact that the longitudinal cleaning speed depends on the rotation speed of said rolls (2, 3).

35 12. Kit for cleaning rolls in printing machines, especially machines for executing prints on web-shaped paper-like material destined to the production of tissue paper,

napkins, toilet paper and the like, characterized by the fact that it comprises:

- a support body (59) provided with fast coupling means for the association to a cleaning head (51; 510);

5 - a plurality of cleaning heads (51, 510) comprising a nozzle (1) and at least a suction chamber (5); said nozzle (1) being disposed inside said chamber (5), apt to direct a steam jet toward the surface of a roll (2, 3) to be cleaned, and connected to steam feeding means; said suction
10 chamber (5) being connected to suction means in order to execute a suction in correspondence of the surface of the roll (2, 3) interested by the steam jet provided by the nozzle (1).

13. Kit according to the claim 12, characterized by the
15 fact that said body (59) is supported by a carriage (89) bi-directionally movable along a guide (93) which is parallel to the longitudinal axis of the rolls (2, 3) to be cleaned.

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original claims 1 and 4, amended; original claims 2 and 3 unchanged;
original claim 5 renumbered as amended claim 4; claim 5 added;
original claims 6 to 13, deleted]

1. Device for cleaning rolls in printing machines,
especially machines for executing prints on web-shaped
paper-like material destined to the production of tissue
5 paper, napkins, toilet paper and the like, comprising:

- a nozzle (1) apt to direct a steam jet toward the
surface of a roll (2, 3) to be cleaned: said nozzle (1)
being connected to steam feeding means;

- a suction chamber (5) within which is disposed said
10 nozzle (1) and apt to execute an aspiration in
correspondence of the surface of the roll (2, 3)
interested by the steam jet supplied by the nozzle (1):
said chamber (5) being connected to relevant suction
means;

- 15 - a plurality of holes (7, 8) oriented toward the surface
of the roll (2, 3) to be cleaned, and connected to air
compressed feeding means;

characterized by the fact that said suction chamber (5) is
delimited by the lateral inner walls (50) of a first box-
20 shaped body (51; 510) and by the lateral outer walls (53)
of a second body (52) which is internal to the first body
(51; 510) and which acts as a support for the said nozzle
(1) and by the fact that a base (55) of said chamber (5) is
delimited by a surface provided with two apertures (56) for
25 connecting it to relevant aspiration ducts (6) and with an
aperture (54) for connecting it to a steam duct (4).

2. Device according to claim 1, characterized by the fact
that said plurality of holes (7, 8) is disposed along two
rows, with the holes of each row aligned according a
30 corresponding plane, forming, in such way, two supplying
fronts for the compressed air which are on the same side in
respect to the nozzle (1).

3. Device according to claim 1, characterized by the fact
that it comprises a main body (59) provided with fast
35 coupling means for fixing, one at a time, different

cleaning heads (51; 510) destined to a corresponding roll to be cleaned.

4. Device according to claim 3, characterized by the fact that said main body (59) is supported by a carriage (89) bi-directionally movable along a guide (93) parallel to the roll (2, 3) to be cleaned.

5. Device according to claim 1 characterized by the fact that said first body (51) and said second body (52) have, in correspondence of the open base (57) of the chamber (5), a plurality of holes (7, 8) facing the surface of the roll (2, 3) to be cleaned and connected to compressed air supplying means by a corresponding flexible duct (9), the holes (7) of the first body (51; 510) being connected to a first distribution chamber (70) which is developed transversally to the same holes and is supplied by a duct (9) through a corresponding connecting joint (79), the holes (8) of the second body (52) being connected to a second distribution chamber (80) which is parallel to said first chamber (70) and is supplied by said duct (9) through a corresponding offtake (78), said holes (7, 8) for the outlet of the compressed air being aligned according to two corresponding planes, forming, two compressed air supplying fronts on the same side in respect to the nozzle (1) supported by the second body (52).